

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-31 (cancelled).

32. (New) A device for continuously measuring osmotic pressure of blood flowing through an extracorporeal blood circuit comprising:

a blood passage further comprising a withdrawal blood passage connectable to a blood vessel in a patient and an infusion blood passage connectable to a blood vessel in a patient;

an osmotic pressure measurement device further comprising a filtrate chamber, a blood chamber and a permeable membrane separating the filtrate chamber and blood chamber, wherein the blood chamber is in fluid communication with the blood passage, and

a pressure sensor measuring a pressure difference between the filtrate chambers and the blood chamber.

33. (New) A method for preventing hypotension in a mammalian patient whose blood is being withdrawn, treated in an extracorporeal blood circuit having an osmotic measurement device comprising a blood chamber, a filtrate chamber and a permeable membrane separating the blood and filtrate chambers, said method comprising:

- a. withdrawing blood from the patient into the extracorporeal blood circuit, condensing the blood by removing fluid from the blood using a filter in the blood circuit, and infusing the condensed blood to the patient;
- b. isolating the filtrate chamber from fluid flow other than from flow through the permeable membrane while flowing blood from the blood circuit through the blood chamber;
- c. measuring a pressure difference across the permeable membrane to measure an osmotic pressure level, and
- d. adjusting a rate of removal of the fluid from the blood in the filter, if the measured osmotic pressure level varies from a predetermined osmotic pressure setting.

34. (New) A method for preventing hypotension as in claim 33 wherein the filtrate chamber is filled with plasma water prior to step (b).

35. (New) A method for preventing hypotension as in claim 33 wherein the pressure difference is measured by a differential pressure sensor monitoring a fluid pressure in the filtrate chamber and the blood chamber.

36. (New) A method for preventing hypotension as in claim 33 wherein the filter is a hemodialysis filter.

37. (New) A method for preventing hypotension as in claim 33 wherein the osmotic pressure setting is a maximum osmotic pressure level.

38. (New) A method for preventing hypotension as in claim 37 wherein the maximum osmotic pressure setting is a sum of a osmotic pressure level determined

during an initial phase of treating the blood in the circuit and a predetermined delta osmotic pressure level.

39. (New) A method for preventing hypotension as in claim 38 wherein the predetermined delta osmotic pressure level is selected by an operator.

40. (New) A method for preventing hypotension as in claim 38 wherein the predetermined delta osmotic pressure level is a level no greater than twenty percent greater than the determined initial osmotic pressure

41. (New) A method for preventing hypotension as in claim 33 wherein the osmotic pressure setting is selected by an operator.